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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,434	03/28/2001	Kiwamu Inui	10873.679US01	2708
7590	03/11/2004		EXAMINER CHANEY, CAROL DIANE	
Merchant & Gould P.C. P.O. Box 2903 Minneapolis, MN 55402-0903			ART UNIT 1745	PAPER NUMBER

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/819,434

Applicant(s)

INUI ET AL.

Examiner

Carol Chaney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 20 October 2003 has been entered.

Specification

The amendment filed 04 August 2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The limitation of claim 1 reciting the battery modules "having different dimensions in a thickness direction..." is not supported by applicants' specification as filed. Applicant points to page 7, lines 9-12 for support of this added limitation. Page 7, lines 9-12 discusses manufacturing tolerances of battery containers, stating:

In this embodiment, the fabrication tolerance of the convex portions 21 is set to ± 0.05 mm of the design target value of the protrusion 1. Therefore, the fabrication tolerance of a cooling slit width W becomes ± 0.1 mm.

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This description, however, does not describe battery module thickness which are required to have different thicknesses. Thus, the limitation "having different dimensions in a thickness direction..." is considered to be new matter.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. As discussed above, the limitation "having different dimensions in a thickness direction..." is considered to be new matter.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The orientation of "a thickness direction" is not defined, and thus the claims are indefinite. Since all directions can be considered to have a "thickness" the direction intended is indefinite.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

To the extent to which they are understood, claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ovshinsky et al., WO 98/31959 for reasons of record. For convenience, the rejection is repeated below:

Ovshinsky et al. disclose a fluid-cooled battery pack system, including a battery pack case with coolant inlet and outlet means, and at least one battery pack module placed in the case. The modules are formed of bundled, electrically connected, batteries. The modules are placed within the case so that flow channels for the coolant are formed along at least one surface of the batteries. Coolant transport means are provided. (Note page 42, claim 1.) Inherent to manufacturing processes will be variations in casing wall thicknesses. With regards to applicants' claims 2 and 3, the width of the coolant flow channels disclosed by Ovshinsky et al. are optimally sized to allow for maximum heat transfer through convective, conductive and radiative heat transfer mechanisms. (Note page 29, line 30-page 30, line 9.) Thus, the channels are sized to maintain temperature variations within a given range, and the battery module

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container materials are accounted for in calculating heat transfer mechanisms. With regards to applicants' claim 4, the a polymer (i.e. resin) material may be used for the battery case disclosed by Ovshinsky et al. (Note Ovshinsky et al., page 14, lines 20-21.) With regards to applicants' claims 5-9, Figure 15 and page 26, lines 22-32 of the Ovshinsky et al. patent disclose spacers between battery modules which serve as flow channels. With regards to applicants' claim 10, Ovshinsky et al. disclose battery pack cases containing modules which are spaced away from the case walls. (Ovshinsky et al., page 29, lines 25-32.) The spacings form upper and upper and lower cooling chambers. With regards to applicants' claim 11, Ovshinsky et al. disclose a pump, which will cause a difference in pressure, as a coolant transport means. (Ovshinsky et al., page 43, lines 25-26.) The battery pack system disclosed by Ovshinsky et al. may maintain a temperature below 45°C, and a variation of temperature between modules of less than 8°C. (Ovshinsky et al., page 44, lines 29-30 and page 45, lines 1-3.) Thus, applicants' claim 12 is anticipated. The Ovshinsky et al. battery pack system is designed to use electrically insulating coolant, which may be either gaseous or liquid, and is preferably air. A forced-air blower, or fan may be used to transport coolant. (Ovshinsky et al., page 30, lines 21-31.) The fan may be placed at either the coolant inlet or the coolant outlet. (Ovshinsky et al., page 43, lines 7-16.) Thus, applicants' claims 13-18 are also anticipated.

Response to Arguments

Applicant's arguments filed 04 August 2003 have been fully considered but they are not persuasive.


Applicants assert Ovshinsky et al. do not disclose or suggest that a variation in temperature can be reduced by using a coolant flow path that has a width set to a value that accounts for a predetermined tolerance in the battery modules, as recited in claim 1. However, it is noted that applicants' claims are directed to a battery pack, rather than a method of designing a battery pack. As has been discussed on the record, the actual product recited in instant claims 1-18 is identical to the battery pack disclosed by Ovshinsky et al. Applicants' claims are interpreted to recite a battery pack system which has a limited range of temperature variation between battery modules, and which remains under a specified temperature when operated. The Ovshinsky et al. invention maintains the temperatures of batteries below 45 °C (claim 21) and maintains a temperature variation between modules of less than 8 °C (claim 22), and thus meet these limitations. The specifics of how manufacturing design tolerances are determined do not distinguish the batteries per se. The Court of Customs and Patent Appeals has long recognized that an invention may be described in different ways and still be the same invention. See *Kennecott Corp. v. Kyocera International, Inc.* 5 USPQ2d 1194 (CFAC 12-22-87) and *In re Kirscher*, 134 USPQ 324 (CCPA 1962). As discussed above, the actual battery disclosed by the applicants is not distinguished from the batteries disclosed by Ovshinsky et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol Chaney whose telephone number is (571) 272-1284. The examiner can normally be reached on Mon - Fri 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Carol Chaney
Primary Examiner
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